
CARLISLE COUNTY

(Carlisle County Water Service Area Map)

- Estimated 1999 population of 5,400--45% on public water
- Estimated 2020 population of 5,300--49% on public water
- 33 miles of water lines, with plans for 13 additional miles
- Estimated funding needs for public water 2000-2005--\$2,180,000
- Estimated funding needs for public water 2006-2020--\$0

Carlisle County had an estimated population of 5,409 (2,334 households) in 1999 with a projected population of 5,266 (2,409 households) in 2020. Public water is provided to nearly 1,000 customers, or about 45% of the county residents. The remainder of the county is served by private domestic wells. The population of the county is projected to decline by the year 2020. About 100 new households will be placed on public water through line extensions in 2000-2020.

Estimated Costs - Proposed Projects, 2000-2005

COUNTY/System		New Customers		Rehab	Source	Treatment	Tanks/ Pumps	Total
	Miles	Number	Cost in \$1000	in \$1000	in \$1000	in \$1000	in \$1000	in \$1000
CARLISLE								
ARLINGTON WATER DEPARTMENT	2.2	15	56				425	481
BARDWELL CITY UTILITIES	5.3	30	139			1,000	425	1,564
CUNNINGHAM W/D	5.3	53	138					138
TOTAL	12.8	98	334			1,000	850	2,184

PUBLIC WATER SYSTEMS

Carlisle County is served by 5 water systems: 4 community systems--2 municipal: Arlington Water Department, Bardwell City Utilities; 2 water districts: Cunningham, Milburn--and 1 non-community system. All systems rely on water wells.

ARLINGTON WATER DEPARTMENT

PWSID: 0200009
System Type: COMMUNITY
Owner Type: MUNICIPAL
Surface Source:
Purchase Source:
Well Source: Yes
Sells Water to:

WATER SERVICE AREAS

CARLISLE COUNTY

Kentucky

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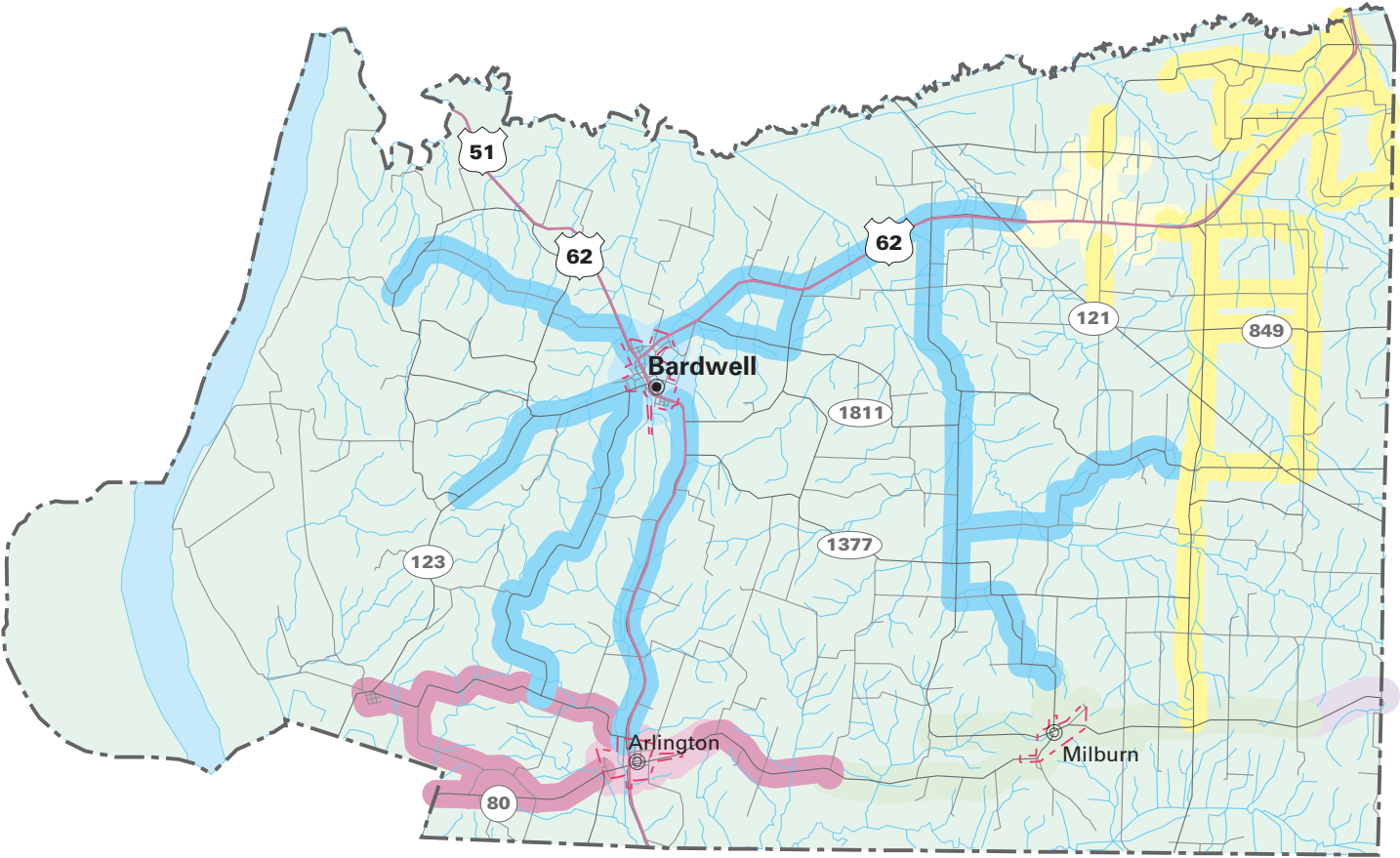
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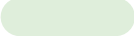
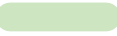


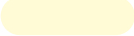

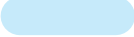



Data Collection & GIS Input By:
Kentucky Area Development Districts



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WATER SERVICE STATUS BY OWNER

EXISTING SERVICE AREA	PROPOSED SERVICE AREA	
		MILBURN WATER DISTRICT
		FANCY FARM WATER DISTRICT
		CUNNINGHAM WATER DISTRICT
		BARDWELL CITY UTILITIES
		ARLINGTON WATER DEPARTMENT

Treatment Plant Capacity (MGD):.....	0.28
Percent Daily Average Production:	16.00
Total Tank Storage Capacity (gallons):.....	125,000.00
Total Service Connections:	200.00
Number of Employees:.....	3.00
Treatment Operator Class:	
Distribution Operator Class:	2BD
Customer Rate for 1,000 Gallons:.....	Not available
O/M costs 1997:.....	Not available
O/M costs per Service Connection:	Not available
Net Revenue 1997:	Not available
Total Water Produced 1997 (gallons):.....	Not available
Water Sold 1997 (gallons):.....	Not available
Unaccounted-for Water 1997 (%):	Not available

The Arlington Water Department currently serves 200 customers, and has three fulltime employees. The municipal system draws its water from 2 wells. The system is allowed to withdraw 750,000 gallons a day. The systems water treatment plant has a 24-hour rated capacity of 288,000 gallons a day. The system has one tank that can hold 125,000 gallons of water.

BARDWELL CITY UTILITIES

PWSID:	0200018
System Type:.....	COMMUNITY
Owner Type:	MUNICIPAL
Surface Source:	
Purchase Source:	
Well Source:	Yes
Sells Water to:	
Treatment Plant Capacity (MGD):.....	0.32
Percent Daily Average Production:	37.00
Total Tank Storage Capacity (gallons):.....	100,000.00
Total Service Connections:	460.00
Number of Employees:.....	0.00
Treatment Operator Class:	
Distribution Operator Class:	2BD
Customer Rate for 1,000 Gallons:.....	Not available
O/M costs 1997:.....	Not available
O/M costs per Service Connection:	Not available
Net Revenue 1997:	Not available
Total Water Produced 1997 (gallons):.....	Not available
Water Sold 1997 (gallons):.....	Not available
Unaccounted-for Water 1997 (%):	Not available

Bardwell City Utilities currently serves 460 customers. The municipal water system currently withdraws on the average of 116,000 gallons per day from its two wells. The treatment plant is rated for 325,000 gallons per day, but only treats approximately 100,000 per day. The

system has a storage capacity of 100,000 gallons. The system currently spends 66% of its revenue on operation and maintenance. The current required classification of the plant is IIBD.

CUNNINGHAM WATER DISTRICT

PWSID: 0200095
System Type:..... COMMUNITY
Owner Type: WATER DISTRICT
Surface Source:
Purchase Source:
Well Source: Yes
Sells Water to:
Treatment Plant Capacity (MGD):..... 0.18
Percent Daily Average Production: 16.00
Total Tank Storage Capacity (gallons):..... 150,000.00
Total Service Connections: 135.00
Number of Employees:..... 1.00
Treatment Operator Class:
Distribution Operator Class: 2BD
Customer Rate for 1,000 Gallons:..... 2.66
O/M costs 1997:..... 13,379.00
O/M costs per Service Connection: 98.38
Net Revenue 1997: 1,195.00
Total Water Produced 1997 (gallons):..... 7,248,000.00
Water Sold 1997 (gallons):..... 6,432,000.00
Unaccounted-for Water 1997 (%): 8.97

The Cunningham Water District currently serves 135 customers. The system is allowed to withdraw 50,000 gallons per day from two wells, but only withdraws 26,000 gallons per day on the average. The treatment plant currently has an average daily production of 19,857 gallons per day, but the plant is rated for 180,000 gallons per day. The system spends 78% of its revenue on operation and maintenance.

MILBURN WATER DISTRICT

PWSID: 0200284
System Type:..... COMMUNITY
Owner Type: WATER DISTRICT
Surface Source:
Purchase Source: FANCY FARM WATER DISTRICT
Well Source:
Sells Water to:
Treatment Plant Capacity (MGD):..... 0.00
Percent Daily Average Production: 0.00
Total Tank Storage Capacity (gallons):..... 75,000.00
Total Service Connections: 166.00
Number of Employees:..... 2.00

Treatment Operator Class:.....	1D
Distribution Operator Class:	
Customer Rate for 1,000 Gallons:.....	5.14
O/M costs 1997:.....	31,407.00
O/M costs per Service Connection:.....	206.63
Net Revenue 1997:.....	4,096.00
Total Water Produced 1997 (gallons):.....	0.00
Water Sold 1997 (gallons):.....	8,039,000.00
Unaccounted-for Water 1997 (%):	15.07

The Milburn Water District currently serves 166 customers. The system purchases its water from the Fancy Farm Water District in Graves County. The district has a storage capacity of 75,000 gallons. The system is a class A system. The system spends 74% of it revenue on operation and maintenance.

OTHER SYSTEMS

Carlisle County Board of Education system serves a population of 900 and has 6 service connections. The local, non-transient, non-community system has treatment capacity of 42,000gallons per day. The water source is ground water from wells.

PRIVATE DOMESTIC SYSTEMS

About 3,000 people in Carlisle County rely on private domestic wells for their water supply.

Abundant quantities of ground water is available for domestic, irrigation, and industrial uses in Carlisle County from depths of a few feet down to 600 feet. In general, the chemical quality of the water is good, but water from some aquifers contains objectionable amounts of iron and manganese. Water from the thick Mississippi River alluvium is generally hard to very hard. Water from the non-alluvium aquifers are considered soft and slightly acidic with low dissolved solids. Generally, depths to ground-water is under 100 feet except in the uplands of Carlisle County where sufficient ground-water is obtained at depths greater than 100 feet. Yields in some of the deeper wells are greater than 1,000 gallons per minute which is sufficient for a community or industrial supply.

Water quality generally is good except in areas where downward percolation of surface water and fluids from domestic sewage-disposal systems, and other sources of domestic or industrial pollution have contaminated the aquifer. Ground water sometimes contains iron naturally in objectionable amounts from the deeper zones. In some formations with slightly acidic

ground-water, a chemical reaction between the acidic ground-water and steel well casing and pump equipment will produce a high iron content in the water which is not naturally occurring.
